AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A data processing system ~~including~~ comprising a plurality of data processing apparatuses,

at least two of the data processing apparatuses being type 1 data processing apparatuses, a type 1 data processing apparatus comprising:

at least one special-purpose data processing unit that includes a data path portion for specialized data processing that is executed according to at least one special-purpose instruction;

a general-purpose data processing unit for executing standard processing according to general-purpose instructions; [[and]]

an instruction issuing unit for issuing instructions to the at least one special-purpose data processing unit and the general-purpose data processing unit, based on a program that includes the at least one special-purpose instruction and general-purpose instructions[[,]];

wherein the general-purpose data processing unit of the type 1 data processing apparatus includes communication means for exchanging data with the general-purpose data processing unit in at least one other type 1 data processing apparatus;

the type 1 data processing apparatuses are each equipped with a code memory area for storing the program and a data memory area for inputting and/or outputting data in accordance with at least one of the general-purpose instructions; and

when one of an input address for an input of data and an output address for an output of data according to one of the general-purpose instructions is in a predetermined address range, the communication means in a type 1 data processing apparatus exchanges data by performing one of an input and an output of data for the data memory area assigned to another type 1 data processing apparatus;

the communication means of the type 1 data processing apparatus includes means for storing, when data is received from another type 1 data processing apparatus, the data at a corresponding address in the data memory area; and.

the communication means of the type 1 data processing apparatus further includes arbitration means for delaying an operation of the means for storing data when the general-purpose data processing unit is presently reading data from a dedicated reception region in the data memory area in which the means for storing data is to store data, and for delaying an operation of the general-purpose data processing unit that reads data from the dedicated reception region when the means for storing data is presently storing data.

2. (Original) A data processing system according to Claim 1, wherein at least one of the at least one special-purpose data processing unit is equipped with a function for exchanging data with a type 2 processing apparatus.

Claim 3 (Canceled).

4. (Currently Amended) A data processing system according to Claim [[3]] 1, wherein the communication means of the type 1 data processing apparatus is equipped with transmission means for transmitting data to another type 1 data processing apparatus when the output address is in a predetermined address range.

5. (Currently Amended) A data processing system according to Claim [[3]] 1, wherein the communication means of the type 1 data processing apparatus is equipped with reception means for receiving data from another type 1 data processing apparatus when the input address is a predetermined address range.

6. (Currently Amended) A data processing system according to Claim [[3]] 1, wherein the type 1 data processing apparatuses comprise at least one upper data processing apparatus and at least one lower data processing apparatus that communicates with the at least one upper data processing apparatus, and

the communication means of the lower data processing apparatus includes:

transmission means for transmitting data to the at least one upper data processing apparatus when the output address is in a predetermined address range; and

reception means for receiving data from the at least one upper data processing apparatus when the input address is in a predetermined address range.

7. (Currently Amended) A data processing system according to Claim [[3]] 1, wherein the type 1 data processing apparatuses comprise at least one upper data processing apparatus and at least one lower data processing apparatus that communicates with the at least one upper data processing apparatus, and

the communication means of the upper data processing apparatus includes:

transmission means for transmitting data to at least one lower data processing apparatus when the output address is in a predetermined address range; and

reception means for receiving data from at least one lower data processing apparatus when the input address is in a predetermined address range.

Claims 8 and 9 (Canceled).

10. (Currently Amended) A data processing system ~~according to Claim 3, wherein~~ comprising a plurality of data processing apparatuses, at least two of the data processing apparatuses being type 1 data processing apparatuses, a type 1 data processing apparatus comprising:

at least one special-purpose data processing unit that includes a data path portion for specialized data processing that is executed according to at least one special-purpose instruction;

a general-purpose data processing unit for executing standard processing according to general-purpose instructions;

an instruction issuing unit for issuing instructions to the at least one special-purpose data processing unit and the general-purpose data processing unit, based

on a program that includes the at least one special-purpose instruction and general-purpose instructions;

wherein the general-purpose data processing unit of the type 1 data processing apparatus includes communication means for exchanging data with the general-purpose data processing unit in at least one other type 1 data processing apparatus;

the type 1 data processing apparatuses are each equipped with a code memory area for storing the program and a data memory area for inputting and/or outputting data in accordance with at least one of the general-purpose instructions; and

when one of an input address for an input of data and an output address for an output of data according to one of the general-purpose instructions is in a predetermined address range, the communication means in a type 1 data processing apparatus exchanges data by performing one of an input and an output of data for the data memory area assigned to another type 1 data processing apparatus;

the communication means of the type 1 data processing apparatus includes means for supplying, when data is requested from another type 1 data processing apparatus, the data from a corresponding address in the data memory area.

11. (Original) A data processing system according to Claim 10,

wherein the communication means of the type 1 data processing apparatus further includes arbitration means for delaying an operation of the means for supplying data when the general-purpose data processing unit is presently writing data into a dedicated transmission region in the data memory area from which the

means for supplying data obtains data, and for delaying an operation of the general-purpose data processing unit that writes data in the dedicated transmission region when the means for supplying data is presently supplying data.

12. (Original) A data processing system according to Claim 1 further comprises a data processing subsystem being composed of a plurality of special-purpose data processing units of a plurality of type 1 data processing apparatuses for processing a single data stream.

13. (Original) A data processing system according to Claim 1 further comprises a plurality of data processing subsystems, each data processing subsystem is composed of a plurality of special-purpose data processing units of a plurality of type 1 data processing apparatuses for processing a data stream.

14. (Currently Amended) A data processing apparatus, comprising:

at least one special-purpose data processing unit that includes a data path portion for specialized data processing that is executed according to at least one special-purpose instruction;

a general-purpose data processing unit for executing standard processing according to general-purpose instructions; [[and]]

an instruction issuing unit for issuing instructions to the at least one special-purpose data processing unit and the general-purpose data processing unit, based on a program that includes the at least one special-purpose instruction and general-purpose instructions[[,]];

wherein the general-purpose data processing unit includes communication means for exchanging data with the general-purpose data processing unit in another data processing apparatus;

a code memory area for storing the program; and

a data memory area for inputting and/or outputting data in accordance with at least one of the general-purpose instructions;

wherein when one of an input address for an input of data and an output address for an output of data according to the at least one of the general-purpose instructions is in a predetermined address range, the communication means exchanges data with another data processing apparatus by performing one of an input of data and an output of data;

the communication means includes means for storing, when data is received from another data processing apparatus, the data at a corresponding address in the data memory area; and

the communication means further includes arbitration means for delaying an operation of the means for storing data when the general-purpose data processing unit is presently reading data from a dedicated reception region in the data memory area in which the means for storing data is to store data, and for delaying an operation of the general-purpose data processing unit that reads data from the dedicated reception region when the means for storing data is presently storing data.

15. (Canceled)

16. (Currently Amended) A data processing apparatus according to Claim [[15]] 14,

wherein the communication means includes transmission means for transmitting data to another data processing apparatus when the output address is in a predetermined address range.

17. (Currently Amended) A data processing apparatus according to Claim [[15]] 14,

wherein the communication means includes reception means for receiving data from another data processing apparatus when the input address is in a predetermined address range.

18. (Canceled)

19. (Canceled)

20. (Currently Amended) A data processing apparatus ~~according to Claim 15, wherein~~, comprising:

at least one special-purpose data processing unit that includes a data path portion for specialized data processing that is executed according to at least one special-purpose instruction;

a general-purpose data processing unit for executing standard processing according to general-purpose instructions;

an instruction issuing unit for issuing instructions to the at least one special-purpose data processing unit and the general-purpose data processing unit, based on a program that includes the at least one special-purpose instruction and general-purpose instructions;

wherein the general-purpose data processing unit includes communication means for exchanging data with the general-purpose data processing unit in another data processing apparatus;

a code memory area for storing the program; and

a data memory area for inputting and/or outputting data in accordance with at least one of the general-purpose instructions;

wherein when one of an input address for an input of data and an output address for an output of data according to the at least one of the general-purpose instructions is in a predetermined address range, the communication means exchanges data with another data processing apparatus by performing one of an input of data and an output of data;

the communication means includes means for supplying, when data requested from another type 1 data processing apparatus, the data from a corresponding address in the data memory area.

21. (Original) A data processing apparatus according to Claim 20,

wherein the communication means further includes arbitration means for delaying an operation of the means for supplying data when the general-purpose data processing unit is presently writing data into a dedicated transmission region in the data memory area from which the means for supplying data obtains data, and for

delaying an operation of the general-purpose data processing unit that writes data in the dedicated transmission region when the means for supplying data is presently supplying data.

22. (Original) A method of control of a data processing apparatus equipped with (1) at least one special-purpose data processing unit that includes a data path portion for specialized data processing that is executed according to at least one special-purpose instruction, (2) a general-purpose data processing unit for executing standard processing according to general-purpose instructions, (3) an instruction issuing unit for issuing instructions to the at least one special-purpose data processing unit and the general-purpose data processing unit, based on a program that includes the at least one special-purpose instruction and general-purpose instructions, (4) a code memory area for storing the program, and (5) a data memory area for inputting and/or outputting data in accordance with at least one general-purpose instructions,

the method comprising a communication step in which data is exchanged with another data processing apparatus when, according to the at least one general-purpose instructions, one of an input address for an input of data and an output address for an output of data is in a predetermined address range.

23. (Original) A method of control according to Claim 22,

wherein the communication step includes a step for transmitting data to the other data processing apparatus when the output address is in a predetermined address range.

24. (Original) A method of control according to Claim 22,

wherein the communication step includes a step for receiving data from the other data processing apparatus when the input address is in a predetermined address range.

25. (Original) A method of control according to Claim 22,

wherein the communication step includes a step for storing data that has been received from the other data processing apparatus at a corresponding address in the data memory area.

26. (Original) A method of control according to Claim 25,

wherein in the communication step, the step for storing data is delayed when the general-purpose data processing unit is presently reading data from a dedicated reception region and, when the step for storing data is presently being performed, an operation of the general-purpose data processing unit that reads data from the dedicated transmission region is delayed.

27. (Original) A method of control according to Claim 22,

wherein the communication step includes a step for supplying data that has been requested by another type 1 data processing apparatus from a corresponding address in the data memory area.

28. (Original) A method of control according to Claim 27,

wherein in the communication step, the step for supplying data is delayed when the general-purpose data processing unit is presently writing data into a dedicated transmission region and, when the step for supplying data is presently being performed, an operation of the general-purpose data processing unit that writes data into the dedicated transmission region is delayed.

29. (Original) A data processing system comprising:

a plurality of data processing apparatuses, at least two of the data processing apparatuses being type 1 data processing apparatuses, a type 1 data processing apparatus including at least one special-purpose data processing unit that includes a data path portion for specialized data processing that is executed according to at least one special-purpose instruction; a general-purpose data processing unit for executing standard processing according to general-purpose instructions; and an instruction issuing unit for issuing instructions to the at least one special-purpose data processing unit and the general-purpose data processing unit, based on a program that includes the at least one special-purpose instruction and general-purpose instructions;

wherein the general-purpose data processing unit of the type 1 data processing apparatus includes a communication device for exchanging data with the general-purpose data processing unit in at least one other type 1 data processing apparatus.

30. (New) A data processing system according to Claim 10,

wherein the communication means of the type 1 data processing apparatus is equipped with transmission means for transmitting data to another type 1 data processing apparatus when the output address is in a predetermined address range.

31. (New) A data processing system according to Claim 10,

wherein the communication means of the type 1 data processing apparatus is equipped with reception means for receiving data from another type 1 data processing apparatus when the input address is a predetermined address range.

32. (New) A data processing system according to Claim 10,

wherein the type 1 data processing apparatuses comprise at least one upper data processing apparatus and at least one lower data processing apparatus that communicates with the at least one upper data processing apparatus, and

the communication means of the lower data processing apparatus includes:

transmission means for transmitting data to the at least one upper data processing apparatus when the output address is in a predetermined address range; and

reception means for receiving data from the at least one upper data processing apparatus when the input address is in a predetermined address range.

33. (New) A data processing system according to Claim 10,

wherein the type 1 data processing apparatuses comprise at least one upper data processing apparatus and at least one lower data processing apparatus that communicates with the at least one upper data processing apparatus, and

the communication means of the upper data processing apparatus includes:

transmission means for transmitting data to at least one lower data processing apparatus when the output address is in a predetermined address range; and

reception means for receiving data from at least one lower data processing apparatus when the input address is in a predetermined address range.

34. (New) A data processing system according to Claim 10,

wherein at least one of the at least one special-purpose data processing unit is equipped with a function for exchanging data with a type 2 data processing apparatus.

35. (New) A data processing system according to Claim 10 further comprises a data processing subsystem being composed of a plurality of special-purpose data processing units of a plurality of type 1 data processing apparatuses for processing a single data stream.

36. (New) A data processing system according to Claim 10 further comprises a plurality of data processing subsystems, each data processing subsystem is composed of a plurality of special-purpose data processing units of a plurality of type 1 data processing apparatuses for processing a data stream.